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13. ABSTRACT *(Maximum 200 Words)*

This research attempts to develop the infrastructure for comparative studies of prostate cancer involving West Africa, the Caribbean and the United States. Six essential areas are addressed: case recruitment, case characterization, tissue collection and storage, integrated database development, targeted laboratory expertise and pilot research. *Key Research Accomplishments During Year 1:* 1) changed title of project to "Prostate Cancer in Nigerians, Jamaicans and U.S. Blacks"; 2) maintained the centralized data repository in Chicago consisting of demographic and clinico-pathologic history and tissue (serum/plasma, leukocytes, erythrocytes and prostate tissue) for biochemical and molecular studies; 3) sustained case enrollment and data collection in Chicago; 4) extension of Chicago-area recruitment to a busy private practice; 5) obtained administrative and ethics approval of study site in Jamaica, with re-activation of protocol there; 6) met solicitation and recruitment target in Chicago (Year 1 & 2) and Kingston (Year 1 only); 7) a recruitment site in Accra, Ghana is being established; 8) preliminary biologic and molecular comparison of cases from Chicago and Kingston, planned for this Spring, 2002; 9) 3 manuscripts from our pathology working group under review. There are no other reportable outcomes for Year 2. In conclusion, steady progress is being made. Results of the biochemical and molecular studies and clinical comparison should lay the foundation for future grants. We anticipate requesting a no-cost extension to complete 12 months of data collection once the study is approved there.

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I. INTRODUCTION

The mortality rate from prostate cancer among U.S. blacks is 2-times that of whites (1). An understanding of the factors responsible could provide insight into fundamental etiologic pathways (genes vs. the environment) of the disease. Unfortunately etiologic studies based on within-U.S. black vs. white contrasts are limited since race and social class, both of which influence environmental exposures, are highly confounded in the U.S. Black of the African Diaspora share a common genetic background, yet reside in widely different environmental settings/ Comparisons of prostate cancer across these populations could shed light on potential causative factors in the environment as well as inheritable aspects of the disease. However, such studies are complex.

The purpose of this research is to develop the infrastructure for comparative studies of prostate cancer involving West Africa, the Caribbean and the United States. This collaborative effort addresses six essential infrastructure areas: case recruitment, case characterization, tissue collection and storage, integrated database development, targeted laboratory expertise and pilot research. Per our previous annual report, our key accomplishments for Year 1 (3/00 to 2/01) were as follows:

1. Established reliable recruitment and data collection strategies in Chicago and Kingston.
2. Established a centralized data repository in Chicago consisting of demographic and clinico-pathologic history and tissue (serum/plamsa, leukocytes, erythrocytes and prostate tissue) for biochemical and molecular studies.
3. Met solicitation and recruitment target in Chicago and Kingston.
4. Successfully applied secure web-based technology to solve the problem of pathologists determining histologic grade of cases enrolled by consensus.
5. Positioned to conduct preliminary biologic and molecular comparison of cases in from Chicago and Kingston, pending approval of the latter's assurances with OHRP.
6. Submitted two manuscripts and abstracts from our pathology working group for publication.

However, or our main problems were:

1. Subject enrollment had to be suspended in Jamaica and Ibadan, Nigeria on September 1, 2000 because Single Project Assurances had not been obtained.
2. Disappointing results and an unreliable co-investigator in Ibadan, Nigeria.

Proposed remedies:

1. Obtain necessary project assurances from OHRP to resume subject enrollment and data collection in Kingston, Jamaica.
2. Transfer our West African operation from Ibadan, Nigeria to Accra, Ghana.

Our progress in the context of the approved 'Statement of Work' follows.

II. BODY

Approved Statement of Work

Task 1. Provide reliable recruitment of incident cases in region (Month 1-24)

a. Create consortia of urologist and pathologists in each region: southwest Nigeria, the island of Jamaica and Chicago, IL.

b. Develop incident case recruitment strategies appropriate for each research site, with the goal of ***soliciting participation*** of 75% of newly diagnosed cases per site (25-50 cases per region) per year.

ACCOMPLISHMENTS

a. Consortia of urologists and pathologists created in each region. Our consortia of investigators in Chicago and Jamaica have remained largely intact. However, due to problems detailed in our last annual report, Nigeria was dropped a research site. We have made substantial progress since our last report in transferring our operations in the region to Accra, Ghana.

March/April, 2001 During a visit to Ghana, Dr. Charles Rotimi, consultant to this project, met informally with urologist and pathologist on staff at Korli Bu Hospital and discussed the nature of the project, our problems in Nigeria and the possibility of establishing a study site there in Ghana. Dr. Samuel Gepi-Attee, a Ghanaian urologist and sexual dysfunction expert was identified as an interested potential collaborator. He would be returning to Accra from the U.K. in the summer of 2001. I was asked to visit the hospital shortly thereafter in the fall of 2001 to formally present the research plan and to negotiate it's implementation directly with potential collaborator, an essential step to establishing the study there. An email correspondence between myself and Dr. Gepi-Attee begins shortly thereafter.

May 15, 2001 I bought the lowest published airfare from Chicago to Accra, Ghana (via Frankfurt) for $1,592.64 to meet with Dr. Gepi-Attee and his colleagues during the last week in October. A 6-day visit arriving on 10/24 is planned.

July, 2001 In preparation for my visit in the fall, Dr. Gepi-Attee and I began discussing how to implement the study in Ghana, including the informed consent process, in great detail. Administrative delays has caused Dr. Gepi-Attee reschedule his return to Ghana in September, 2001.

September, 2001 Terrorist attacks on the World Trade Center took place on the 11th of September. After some additional delays, Dr. Gepi-Attee eventually returned to Ghana in late September.

October, 2001 Departing Chicago on the 23rd, I arrived in Accra on the 24th. Dr. Gepi-Attee and I met shortly thereafter. All of the paperwork necessary to obtain FWA's were provided. During the visit, we toured the facilities, assessed resources, negotiated adaptions of the protocol to his site and reviewed candidates for co-investigator pathologist. I left Accra on the 31st, and arrived in Chicago on 11/1.

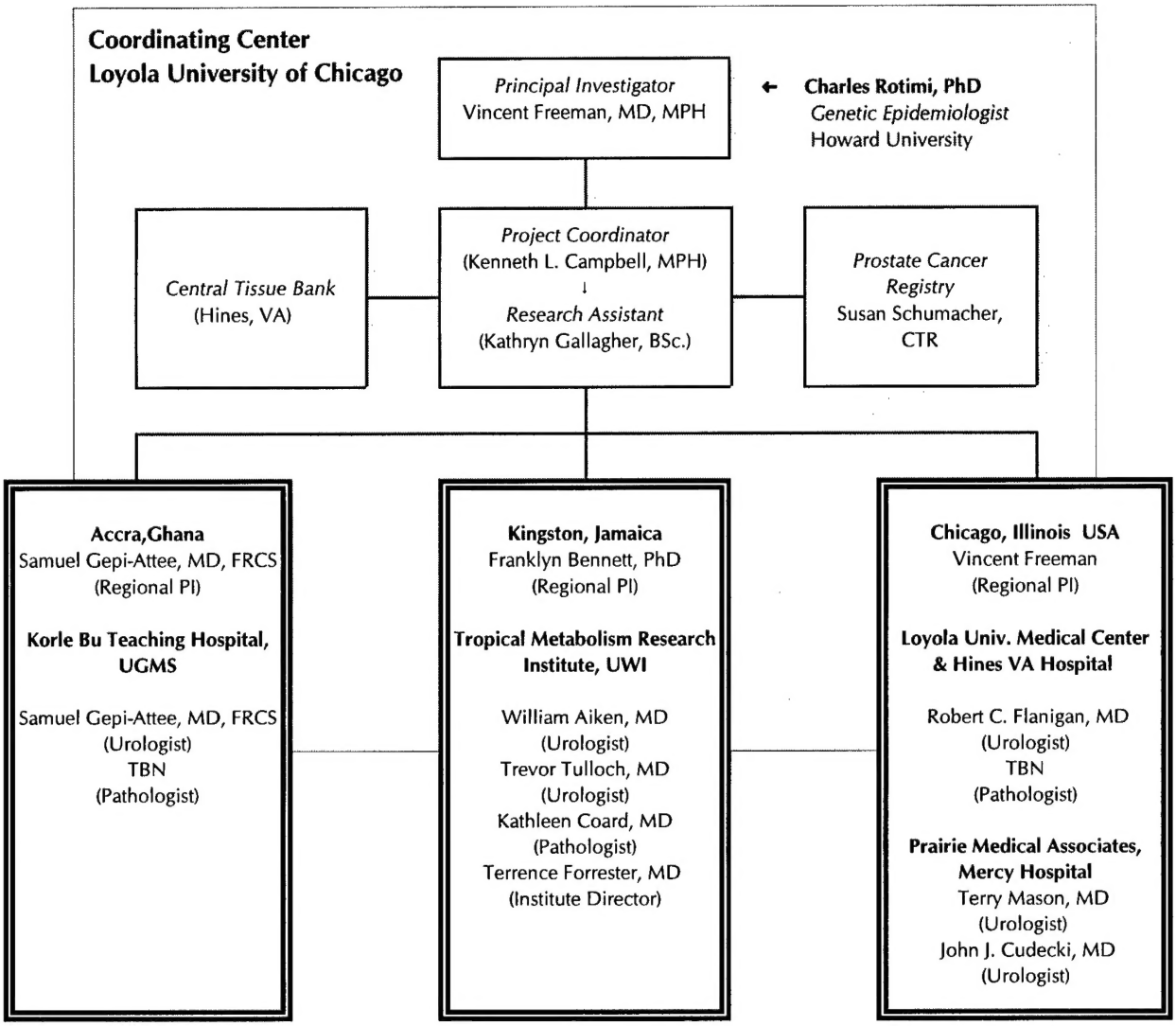
January, 2002 I received formal local IRB approval to transfer our West African operations from Nigeria to Ghana, and, as a consequence, to change the title of the project to "Prostate Cancer in West Africans, Jamaicans and U.S. Blacks".

February, 2002 Dr. Gepi-Attee sent a draft informed consent document. After some revisions, it is forwarded to Mercy Swatson, the Human Subjects Protection Specialist assigned to our project, for comment. A protocol is to follow in Spring of 2002.

We are making steady progress, and a revised budget has been approved to fund operations there for 1 year once they become established. Although we had hoped to begin recruitment in Accra by this past February, it is hoped that it can begin by Fall. Therefore, we anticipate requesting a non-cost extension to meet this goal.

b. Recruitment strategies developed in each of the three sites. The number of subjects enrolled in each site prior to suspension of enrollment in Kingston and Ibadan on September 1, 2000, 62, 74 and 49 in Chicago, Kingston and Ibadan, respectively. As we've just described, Ibadan has been dropped and we are making progress in establishing a new West African site in Ghana. Additional, in order to increase the numbers of African-American men enrolled, we received local IRB approval to extend recruitment at busy private practice on Chicago's predominantly African-American southside. Recruitment will begin as soon the HSRRB approval process that is underway is completed. The resulting organizational structure is depicted on the next page.

Figure 1. Organization structure



Finally, Federal Wide Assurances have been obtained for the Jamaica site, and we received approval from the granting agency this Spring to resume recruitment there.

PROBLEMS

No major problems to report at this time.

Task 2. Characterize each case using a common protocol (Month 3-12)

a. Convene pathologists for a review of the Gleason grading system and group reading of representative slide of cases diagnosed in each region.
b. Determine histologic grades ('Gleason sums') of cases subsequently enrolled by consensus via the Internet, using whole slide images created by Bacus Laboratory Inc. (www.mcs.net/-basuclab) (Lombard, IL.) And posted on an access-restricted website (webslides).
c. Identify and monitor adherence to a common set of tumor and lymph node staging procedures.
d. Collect baseline demographic, clinical and pathologic data via medical records abstraction, supplemented by patient interviews as needed.

ACCOMPLISHMENTS

a. Pathology Consensus Meeting was held in February, 2000. **Per previous annual report for Year 1**, pathologist from each region (Drs. Kathleen Coard-Kingston, Jamaica, Ogunbiyi-Ibadan, Nigeria and Eva Wojcik-Chicago, IL) met at Loyola University for a review of the Gleason grading system and group slide reading. They also came to agreement on procedures for processing and grossing surgical specimens. The BLISS System is operational.

The following abstracts have been accepted:

1. Freeman, VL, Coard, K, Ogunbiyi, O, Wojcik, EM. "Gleason scoring system: high level of agreement between pathologist from three countries" 90th Annual Meeting of the United States and Canadian Academy of Pathology, Atlanta, GA March, 2001

2. Wojcik, EM, Coard, K, Freeman, VL "Prostate cancer in African Americans and Jamaicans" 90th Annual Meeting of the United States and Canadian Academy of Pathology, Atlanta, GA March, 2001

The following manuscript have been submitted.

1. Wojcik, EM, Coard, K, Freeman, VL. Prostate cancer in African Americans and Jamaicans. (submitted to *Urology*)

2. Freeman, VL, Coard, K, Ogunbiyi, O, Wojcik, EM. Gleason scoring system: high level of agreement between pathologist from three countries. (submitted to *Prostate*)

3. Coard, K, Freeman, VL, Wojcik, EM. Prostate cancer histopathology in 90 consecutive cases from Jamaica. (submitted to *West Indian Medical Journal*)

Task 3. Create a centralized repository for serum, plasma, leukocytes and prostate tissue for biochemical and molecular studies (Month 3-6)

a. Collect plasma, serum, and leukocytes on each case at the time of diagnosis, as well as fresh normal prostate tissue at the time of surgery from those undergoing radical prostatectomy.
b. Bank all specimens in Chicago (Department of Preventive Medicine, Loyola University) using an existing barcode driven specimen identification and storage system.

ACCOMPLISHMENTS

Per annual report for Year 1, blood has been collected for biochemical and molecular studies, and samples archived at the Coordinating Center in Chicago. During Year 2, this process has remained intact.

Task 4. Link case demographic, clinical and pathologic characteristics to corresponding tissue samples using a computerized database (Month 7-12)

a. Establish a single computerized registry of demographic, clinic and pathologic data for cases recruited in each region.
b. Combine tissue and registry data into a single electronic record, linking case registry information to corresponding tissue samples using their unique barcode identification number.

ACCOMPLISHMENTS

a. 100% of all Case Registry Form have been entered into an MS Access data using the double-keyed method.

Task 5. Pilot Studies: Conduct comparative studies of genes, nutrition and histopathologic markers of prognosis. (Month 18-36)

ACCOMPLISHMENTS

Now that the study site in Kingston, Jamaica has been approved, molecular or biochemical analyses can begin. We expect completion of these analysis by June 15th.

III. KEY RESEARCH ACCOMPLISHMENTS IN YEAR 2

- Changed title of project to "Prostate Cancer in Nigerians, Jamaicans and U.S. Blacks".
- Maintained the centralized data repository in Chicago consisting of demographic and clinico-pathologic history and tissue (serum/plamsa, leukocytes, erythrocytes and prostate tissue) for biochemical and molecular studies.
- Sustained case enrollment and data collection in Chicago.
- Obtained administrative and ethics approval of study site in Jamaica, with re-activation of protocol there.
- Have met solicitation and recruitment target in Chicago (Year 1 & 2) and Kingston (Year 1 only).
- A recruitment site in Accra, Ghana is being established.
- Recruitment in the Chicago-area is being extended to a busy private practice to complement our university-based case finding.
- Preliminary biologic and molecular comparison of cases from Chicago and Kingston, planned for this Spring, 2002.
- 3 manuscripts from our pathology working group under review.

IV. REPORTABLE OUTCOMES FOR YEAR 2

None

V. CONCLUSIONS

Steady progress is being made. Results of the biochemical and molecular studies and clinical comparison should lay the foundation for future grants. We anticipate requesting a no-cost extension to complete 12 months of data collection once the study is approved there.

VI. REFERENCES

1. Greenlee, R.T., Murray, T., Bolden, S., Wingo, P.A. Cancer statistics 2000. (2000) 50:7-33. *Cancer J Clin*